



Air Force Research Laboratory|AFRL

Science and Technology for Tomorrow's Air and Space Force

Success Story

DR. ARUP MAJI NAMED ASCE FELLOW



The American Society of Civil Engineers (ASCE) recently bestowed Fellow status on Dr. Arup Maji, a senior research scientist and project manager with the Space Vehicles Directorate. The association recognized Dr. Maji's outstanding contributions in the areas of precision smart materials and structures, nondestructive evaluation of (NDE) civil and aerospace structures and materials, acoustic wave propagation and laser interferometry, test design, and data acquisition and instrumentation.



Air Force Research Laboratory
Wright-Patterson AFB OH

Accomplishment

As a senior research scientist, Dr. Maji made it possible to develop new laser interferometry techniques for NDE of structures. The ASCE honored Dr. Maji for his contribution to the understanding of material behavior in civil and aerospace structures through innovative applications of engineering mechanics.

Background

Dr. Maji obtained a patent on a new NDE technique for inspecting large steel structures and pipelines based on acoustic wave propagation. During the past 7 years, Dr. Maji and individuals under his supervision have extended the applications of structural mechanics to improve the understanding of processing aerospace composite structures. More specifically, the causes of curvature and residual stresses during filament winding and pultrusion have been quantified, and their detrimental effects have been minimized.

Concurrent research projects on smart materials (shape-memory alloy, piezo-ceramics, piezo-polymers) have demonstrated new applications in satellites and have helped quantify how these materials behave individually and in conjunction with other materials. The understanding of advanced materials processing and smart materials enabled the precise control of structural shape, necessary for space-based sensors. Dr. Maji has authored 40 journal papers and more than 100 papers in proceedings of international conferences.

Space Vehicles
Awards and Recognition

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (03-VS-26)